(a) introducing one or more packaging vectors into a non-primate mammalian cell line, wherein said cell line exhibits [substantially] no hybridization to a Moloney-MLV retrovirus *gag*, *pol* and/or *env* probe [under stringent washing conditions] and is capable of producing human-serum-resistant RVP and wherein said vectors, either singly or collectively, express a cellular targeting protein and retroviral *gag* and *pol* genes in amounts sufficient to package said RVP; and

(b) recovering said packaging cell line.

## REMARKS

Claims 22-35, 39 and 40 have been canceled pursuant to the Examiner's restriction requirement. Claim 1 has been amended to clarify the subject matter claimed therein. The amendments to Claim 1 are supported by the Specification. No new matter has been added. In view of the above amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable. Reconsideration of the present application is requested.

### I. Rejection under 35 U.S.C. § 102(e)

Claims 1, 3-6, 8-11, 13-21 and 36-38 have been rejected under 35 U.S.C. §102(e) as allegedly anticipated by U.S. Patent No. 5,871,997 to Rother *et al.* ("Rother").

Amended Claim 1 is directed to a method of preparing a stable retroviral packaging cell line to produce human serum-resistant RVP. The first step provides that one or more packaging vectors are introduced into a non-primate mammalian cell line that (1) exhibits no hybridization to a Moloney-MLV retrovirus *gag*, *pol* or *env* probe; and (2) is capable of producing human-serum-resistant RVP. Each remaining claim depends directly or indirectly from amended Claim 1, and thus includes these aspects of the cell line.

Rother does not disclose any such cell line and therefore does not anticipate the invention as claimed. Rother is directed generally to cell lines which are of primate origin and which lack galactose alpha (1,3) galactosyl epitopes, *i.e.*, α-galactosyl negative cells (*see,*

*e.g.*, Col. 9, Lines 19-23). Since the Rother cell lines are of primate origin, they do not anticipate the cell lines of amended Claim 1. Moreover, all Rother cell lines must be α-galactosyl negative, and Rother teaches this is a necessary feature of cell lines making human-serum-resistant RVP. Since the presence or absence of α-galactosyl on the cells of the instantly claimed invention is irrelevant, Rother teaches away from the instantly claimed invention.

As the Examiner has noted, Rother discloses two non-primate cell lines as useful for producing human serum-resistant RVP, namely Chinese hamster ovary cells ("CHO") and baby hamster kidney cells ("BHK"). (Col. 15). This disclosure, however, does not anticipate the instant invention. First, Rother does not provide any teaching or suggestion that CHO or BHK is preferred over any other cell line in a method for making human serum-resistant RVP.[1] A genus disclosure does not anticipate a claim to a species if the claimed species is not defined or deliniated in the genus disclosure. MPEP §2131.02.

Second, contrary to the Examiner's assertion that CHO and BHK inherently express α-galactosyl, Rother teaches that CHO and BHK used in a method for making human-serum-resitant RVP must be α-galactosyl negative. (Col. 15, ll. 35-47). Since the instantly claimed invention does not impose any such condition upon a cell line, Rother teaches away from the instantly claimed invention.

Third, as noted in the prior amendment, CHO and BHK contain sequences which exhibit hybridization to a Moloney-MLV retrovirus *gag, pol* or *env* probe. Lie *et al.* (1994) "Chinese Hamster Ovary Cells Contain Transcriptionally Active Full-Length Type C Proviruses" *Virology* 68:7840-7849, 7840, left column, second full paragraph; 7843, left

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[1] Rother in fact teaches that non-primate cell lines such as NIH3T3 are disfavored in a method for making human-serum-resistant RVP. (Col. 9, ll. 1-4; col. 13, ll. 37-42).

column. Anderson *et al.* (1991) "Endogenous Origin of Defective Retroviruslike Particles From a Recombinant Chinese Hamster Ovary Cell Line" *Virology* 181:305-311, 306, right column; 308, right column (copies included with prior amendment).

The Examiner admits that CHO exhibits hybridization to a Moloney-MLV retrovirus probe, but contends that BHK does not hybridize a Moloney-MLV retrovirus probe under stringent washing conditions. Instead, the Examiner contends that BHK hybridizes a related ML2G probe as evidenced by extended film exposure. However, amended Claim 1 no longer recites stringent washing conditions. Also, amended Claim 1 specifies a Moloney MLV *gag, pol* and/or *env* retrovirus probe rather than a Moloney MLV retrovirus probe, and Lie *et al.* notes that Moloney MLV and ML2G *gag, pol* and *env* regions are substantially homologous. Lie *et al.*, 7843, left column, first paragraph. BHK thus contains sequences which will hybridize a Moloney MLV *gag, pol* and/or *env* retrovirus probe.

Since Rother does not anticipate the present invention as provided in amended Claim 1 or any claim dependent thereon, this rejection under 35 U.S.C. § 102(e) is deemed overcome and withdrawal thereof respectfully requested.

## II. Rejection under 35 U.S.C. §112, first paragraph

Claims 2, 7, 12 and 41 have been rejected under 35 U.S.C. §112, first paragraph, as allegedly lacking enablement because the Examiner has indicated that a deposit of the Mpf cell line is required if use of that cell line is claimed by ATCC accession number.

In fact, Applicant acquired the Mpf cell line directly from the American Type Culture Collection ("ATCC"), where it had already been deposited under ATCC Accession Number 1656-CRL. If a deposit of biological material is required to enable a patent, the deposit must be recognized if made in any International Depository Authority ("IDA") as

established under the Budapest Treaty. 37 C.F.R. §1.803. The ATCC is such an IDA. 37 C.F.R. §1.803; MPEP §2405. Thus, no further deposit is necessary.

The Examiner also states that "Applicant must provide a statement indicating that all restrictions on the availability of the Mpf cells would be irrevocably withdrawn upon the issuance of a patent." The statement to which the Examiner refers is only required when a deposit of biological material is made *after* the filing date of the patent application. MPEP §2406.01. That is not the case here. The Mpf cells at ATCC Accession Number 1656-CRL were deposited with the ATCC before the filing date of the instant application.

Accordingly, this rejection is deemed obviated and withdrawal thereof is respectfully requested.

## III. Rejection under 35 U.S.C. §112, second paragraph

Claims 1-21, 36-38 and 41-45 are rejected under 35 U.S.C. §112, second paragraph, because parts of the phrase "exhibits substantially no hybridization to a Moloney-MLV retrovirus probe under stringent hybridization conditions" in unamended Claim 1 is allegedly indefinite.

First, the Examiner asserts that because either a probe hybridizes or it does not, the term "substantially" cannot be used to modify the alleged null term "no hybridization."[2] Applicant herein amends Claim 1 to delete the term "substantially."

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[2] Applicant respectfully disagrees with the Examiner's assertion that "no hybridization" is a null term. Although a single probe will or will not hybridize, hybridization experiments are never conducted using a single probe. As the extent of hybridization will vary depending upon the number and type of probe used as well as the

(cont'd...)

Second, the Examiner asserts that because the skilled artisan would not know what sequences to select in making a "Moloney MLV retrovirus probe," the length and type of probes must be specified. Applicant herein amends Claim 1 to recite "Moloney-MLV retrovirus *gag, pol* and *env* probes." Applicant submits that this amendment properly specifies the length and type of the claimed Moloney MLV retrovirus probes.

Third, the Examiner asserts that"stringent [washing, sic] conditions" is a subjective term and that, without a definition of these conditions, the metes and bounds of the claimed subject matter are unclear. Applicant herein amends Claim 1 to delete the term "stringent washing conditions."

Accordingly, Applicants believe that the claims are definite as amended, and that this rejection under 35 U.S.C. §112, second paragraph is presently obviated and should be withdrawn.

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(...cont'd)

material being probed, "no hybridization" is a relative rather than an absolute term.

## IV. Conclusion

It is believed that the present application is in a condition for allowance which action is earnestly solicited. If the Examiner has any questions, he is invited to contact the undersigned to discuss this application.

Respectfully submitted,

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